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***Central Eurasia:
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Science & Technology

Central Eurasia: Life Sciences

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CONTENTS

2 JULY 1992

Environment

| | |
|---|---|
| Vozrozhdeniye Island Laboratory Abandoned [S. Kozlov; NEZAVISIMAYA GAZETA, 23 Jun 92] | 1 |
| Radiation Hotspots in Ust-Kamenogorsk [A. Kratenko; EKSPRESS-K, Feb 92] | 1 |
| Radioprotective Properties Claimed for Scorzonera [EKSPRESS-K, 27 Feb 92] | 2 |
| First Commercial Blood Bank in Russia [NEZAVISIMAYA GAZETA, 13 May 92] | 2 |
| Testing of Foreign Biopreparations Near Alma-Ata Suspected [O. Babiy; KARAVAN, 22 May 92] | 2 |
| More on Aral CBW Testing Disaster [S. Zeberkhanuly; ZHAS ALASH 23 May] | 3 |

Marine Mammals

| | |
|---|---|
| Uses of Trained Dolphins Described [A. Chepakin and D. Khrupov; IZVESTIYA, 19 Apr 92] | 6 |
|---|---|

Medicine

| | |
|--|---|
| Ukrainian Commission Contemplates Sorbents Program [M. P. Zakharash, A. N. Morozov Interview; RABOCHAYA GAZETA, 8 Apr 92] | 7 |
|--|---|

Public Health

| | |
|--|----|
| Assistance Needed for Manufacture of Artificial Lens [Unattributed author; RABOCHAYA GAZETA, 5 May 92] | 9 |
| Hungarian, Russian Pharmaceutical Firms Seek New Forms of Cooperation [A. Kaverznev; KOMSOMOLSKAYA PRAVDA, 13 May 92] | 9 |
| Anti-Plague Service Created in Kazakhstan [NEZAVISIMAYA GAZETA, 9 Apr 92] | 9 |
| Foreign Cooperation Sought for Hospital Construction [KARAVAN, 27 Mar 92] | 10 |
| New Immunology Institute in Uzbekistan [PRAVDA VOSTOKA, 11 Apr 92] | 10 |
| First Bone Marrow Transplant in Minsk Hospital [VECHERNIY KIYEV, 5 May 92] | 10 |
| Chinese-Kazakh Cooperation Planned [V. Avaliani; KARAVAN, 3 Apr 92] | 10 |
| Health Minister Views Reduction in Medical Imports [Moscow Radio, 9 Jun 92] | 11 |

Vozrozhdeniye Island Laboratory Abandoned

92P60344 Moscow NEZAVISIMAYA GAZETA
in Russian 23 Jun 92 p 6

[Article by Sergey Kozlov, under rubric "Ecology": "The Scientists Have Abandoned the Secret Laboratory"; subtitled "The Commission Has Simply Not Determined What Killed Hundreds of Thousands of Animals in the Aral Region"]

[Text] Until recently, Vozrozhdeniye Island in the Aral Sea was considered to be uninhabited. But in the okrug it was known that during the fifties a top secret base with a population of over a thousand had been built there, the residents of which were engaged in something secret and clandestine in the facility that had been created there—the field scientific research laboratory for means of indication of, and defense against, bacteriological weapons. Literally several kilometers from the test fields stood residences, schools, a nursery, a movie theatre, and a stadium.

The order to create a secret subunit on Vozrozhdeniye Island was signed in 1952. The work, however, began two years later. The area of the test range at that time was 200 square kilometers. At present it has increased tenfold.

Today the secret base is empty. The people have been evacuated. Since last year the windows and doors of the residences, barracks, and the laboratory building have been boarded up. Because of the sharp reduction in financing for scientific research programs, no studies have been planned for this year. But fear of bacteriological weapons in the republic remains.

It intensified after the report that outbreaks of plague had been recorded in the Aral area. This is connected with the tests conducted on the chemical test range. Information began to appear about mass deaths of fish in the sea and of saiga [antelopes], and loss of wool and chemical skin burns in sheep.

At a session of the Kazakhstan parliament this January, president of the international committee "Aral-Asia-Kazakhstan", Mukhtar Shakhnov, said that the island's laboratories were still in operation and demanded their closing.

The Republic's cabinet of ministers immediately formed a commission on the activities of the test range on the island, under the leadership of the Kazakhstan minister of ecology and bioresources, Syatoslav Medvedev.

The commission officially announced that at present the laboratory on Vozrozhdeniye Island is not in operation; however, its conclusions sound somewhat vague. In particular, S. Medvedev reported, "As a government commission we carried out a specific mission and could not expand our sphere of authority. If the issue of checking the progress of the laboratory's research over 38

years is raised, then what is needed is a special commission—a scientific commission—which requires more than one year's work."

The commission's summary: "We ourselves have not established proven facts of negative influence by the laboratory on the environment, population, and animals. This does not mean that there were none. Perhaps they existed at one time. Perhaps some tests were conducted, and on a scale unknown to us. Perhaps in those years certain complex situations occurred."

Thus, in 1991, the laboratory was mothballed. The personnel and population have been transferred to the Aralsk-5 military base. It was proposed that starting in 1992 scientific research on the island be conducted using the rotational shift method. Considering the existing negative public opinion, however, in November 1991, at a scientific council in Sergiyev Posad, a decision was made to terminate the experimental work on the island definitively.

The military are leaving the area, but plague is still breaking out here periodically. In the past five years two major outbreaks of plague have been recorded in the local population. And although according to the information of the Central Asian Scientific Research Anti-plague Institute and Aral Regional Hospital, they are of natural origin, people are persistently talking about the results of experiments on the test range. They are linking the mass deaths of saiga in the region to them. During the year before last, 434 thousand animals died. The causes of the mass deaths of saiga were, in fact, not determined.

We can conclude with Mukhtar Shakhnov's words, which he said after visiting the test range in April of this year: "In the Aral region, people are still swallowing a poisonous mist and contracting lung cancer, plague, and intestinal diseases. But the local authorities are afraid to talk about this openly."

Radiation Hotspots in Ust-Kamenogorsk

927C0415.B Alma-Ata EKSPRESS-K in Russian
27 Feb 92 p 7

[Article by A. Kratenko: "Radiation Hotspots in Ust-Kamenogorsk"]

[Text] EKSPRESS-K reported earlier that about 100 radiation anomalies had been discovered in Ust-Kamenogorsk. In some locations, the gamma-radiation level is 7000 microrentgens per hour. We can now add that the oblast ecology committee has found the answer to the questions as to when and why radioactive soil appeared in Ust-Kamenogorsk and who was responsible for spreading it all over town.

It has been found out that in the area of the Road Construction Institute and on the left bank of the Komendantka River, tantalum-processing factories were operational until 1959. Radioactive waste stored on the

territory of the factories was utilized to fill trenches and potholes. The two most hazardous areas, close to the town center, are still contaminated. To reduce the gamma-radiation level to 20 microroentgens per hour, 700,000 cubic meters of soil will have to be removed. Yet, the oblast has neither a site for burial of contaminated soil nor funds needed for such an operation.

Radioprotective Properties Claimed for Scorzonera

927C0415.C *Alma-Ata EKSPRESS-K in Russian*
27 Feb 92 p 7

[Article by N. Pyagay, amateur plant grower: "An Herb Delicacy for the King's Table"]

[Text] Scorzonera is a carrot-like herb of a humble appearance. It also tastes like a carrot and is known under various names: scorzonera, black root, sweet root, black carrot and koelets.

Since the time of Alexander the Great, scorzonera has been considered a delicacy and served at the king's table. Cooked roots have a pleasant vanilla odor. This is one of the reasons why scorzonera was so highly valued.

Few people know that scorzonera can substitute for a whole drug store. Its cells contain more than 40 percent of protein, a number of important vitamins and many nutrients. Scorzonera contains more than 100 biologically active substances. It is the best vegetable for diabetics and rheumatics, as it contains an ample amount of insulin.

Scorzonera has been found to even rival ginseng. Soviet biologists conducted an experiment. They took three groups of mice and fed a normal diet to the first group, added ginseng to the diet of the second group and fed scorzonera to the third group. After ten days, all mice were placed in a tub with water. What happened? The first group were able to stay above water for an hour, the second group for two hours, and the third group for five hours.

After years of experimentation, Soviet scientist N.L. Simbirtsev succeeded in demonstrating that the black root protects organisms from radiation. This was shown in an experiment on irradiated rats. They were first subjected to a small dose and later to lethal doses. Some animals died en route from the hospital where the radiation dose was given, while others died the next day. However, only those that did not receive scorzonera died. Rats fed scorzonera seemed to be clad in armor: they remained as vigorous as before. The antitumor activity of scorzonera, as demonstrated in experiments, also extends to cancer metastases.

First Commercial Blood Bank in Russia

927C0415.F *Moscow NEZAVISIMAYA GAZETA in Russian* 13 May 92 p 6

[Article: "Blood in a Bank"]

[Text] The joint founders of the first commercial blood bank in southern Russia are Rostov Blood Transfusion Station and Biogem MP [medical enterprise]. According to the bank's executive director Igor Rykov, blood will be preserved after proper processing for up to 10 years, and when needed by the customer (in case of trauma, surgery, childbirth or disease), it will be rapidly delivered to a health institution for transfusion. This will eliminate the risk of introducing infection by transfusion. The annual service charge will be 3000 rubles.

Testing of Foreign Biopreparations Near Alma-Ata Suspected

927C0460 *Alma-Ata KARAVAN in Russian*
22 May 92 p 1

[Article by O. Babiy, from Alma-Ata: "Yet Another Testing Ground, This One Near Alma-Ata?"; first paragraph is source introduction]

[Text] *The newspaper announcement said that in the vicinity of Alma-Ata, from 6 through 20 May, ground and aerial spraying with chemical and bacterial preparations would be performed to rid the woods of pests. And for that reason, it is recommended that for 50 days, herbs not be harvested, cattle not graze there, and mushrooms not be picked.*

That report of the interblast forest-protection station appeared six days after the spraying of the woods began. No less curious is this: Why was the ban period as long as a month and a half? And in general, is it okay to eat vegetables, including early cabbage, which matures during that period around Alma-Ata, if the mushrooms can't be eaten or the herbs harvested? We asked whether officials of the oblast agricultural enterprises and organizations were familiar with the report. Some wouldn't answer. Others honestly admitted that they hadn't seen the announcement yet, but quite amiably rejected the warning about the cattle grazing; the chief argument was, of course, the lack of feed. This means that the wonderful milk will go to the urban-dweller's table with bacteriological impurities.

In the opinion of I. Mityayev, doctor of biological sciences and laboratory head at the Institute of Zoology of the republic's academy of sciences, Alma-Ata and vicinity could become a testing ground for checking the effects of foreign biopreparations. Who knows which is worse—a nuclear testing ground, or a bacteriological testing ground?

"The use of chemical and bacteriological preparations should be kept under strict control," Mityayev says. "Mankind has already seen the contamination of the environment during the period of the so-called chemical revolution of the 1960s. The high level of oncology diseases in the United States today, after years of good environmental conditions, can only be explained by past 'sins'—the uncontrolled use of chemicals and of biological preparations untested in the laboratory.

"We need to learn from other people's mistakes, not repeat them. That is exactly why a zoological resource commission has been set up in our institute. Its specialists are well informed about the scientific achievements of our foreign colleagues and can produce a sound conclusion about what would happen if a given agent against pests were used. That will help avoid outbreaks of allergic illnesses and possible negative phenomena of a mutagenic nature in our republic. As it turns out, however, neither our institute nor our colleagues from either the Plant Protection Institute or the Ministry of Ecology and Bioresources have studied the preparations that were used to treat the woods around Alma-Ata. We wrote a letter to the ministry. I'm afraid that that's not enough for the Alma-Ata residents to comprehend our alarm.

"If we don't create a reliable system for testing the new chemical and bacteriological agents that pour over to us from abroad, Kazakhstan may be threatened by a tragedy comparable to maybe the death of the Aral Sea."

More on Aral CBW Testing Disaster

927C0465A *Alma-Ata ZHAS ALASH in Kazakh*
23 May 92 p 2

[Article by Sayitkhan Zeberkhanuly: "Aral Disaster"]

[Text] Aral! We no longer have it. We were not happy with what it once was before. Now we are arrogant, lazy, and not perturbed. The fish that leap up from it and the seagulls that went soaring aloft withdraw each day farther from the shore. It is also clear that the great sea will not regain its strength from the waters of the Syr-dariya alone, which trickle in. And when will the wind which flows down the bed of the Amu-dariya kiss the sea? Toqtar Awbakirov, Kazakhstan's first space explorer, observed, with his own eyes from his position in space, that the Amu-dariya does not flow into the Aral. If we were all amazed when this was made public, now all of us hold our breaths and have given momentary attention to the sad state of a great river once too wide to cross. "Can you not find something to be hopeful about?," we say to one another. Is there nothing we can conceive of? Even as we finish thinking, even as we go back and forth and express our views, does not the 110 million tons of hard salt dust raised from the Aral sea bed each year choke us? In truth, after all, is there no other powerful force, no specific plan which can restore the retreating sea? We have closed the Semey Testing Area, but its damage remains. We cannot restore the area with money. If today the level of the Aral Sea should fall to 17 meters, we would shout about it here and there. I would know from our complacency that we have

been rescued from "our duty." For sometime we have been raising the outcry everywhere we can about taking in hand swiftly, at the state level, the issue of the social protection of the inhabitants of the disaster area. However, while I have heard that we are preparing the draft of a law which we can rely on, I have not observed that we are taking it up. Now, we must add to it all the damage to the environment of Vozrozhdeniye Island. Facts that have been discovered via secret documents are utterly frightening. What was the cause of the destruction, not of thousands, but of millions of the pet of the steppe, the saiga antelope? Facts about this offered by Mukhtar Shakhnuly, who has recently intimately concerned himself with the Aral problem, also result in some sad statistics. Nurpeyis Maqashev, governor of Atyraw City, who has special information, sadly reports that during the years 1984-1985, for unknown reasons, 3 million wild goats perished within a short time (by spring). By orders from above, various means were investigated to hide the slaughter.

"What has happened?," said N. Maqashev. "I think about the shape of this evil. There is no water; we have been forced at a time when we are chilled by the wind and frozen solid in the spring to huddle together for warmth in the snow. Afterwards, when our eyes have been opened, if we investigate, it turns out in fact that destruction of the saiga has gone along with total destruction of sovkhos livestock. Thereby, it would seem as if we sense something inside. Moreover, did not the explosions of the military eliminate our village? We have dug into a land which has collapsed without any notice being taken..."

This is only one side of the total truth discovered from seven years of research into the Aral situation. The battle for the truth continues to this day in the Torgay Steppe.

Since we have time to discuss it, let us emphasize the outline of a truth that we feel inside. It is also true that the ranks of hunters of the saiga, which perished completely under such circumstances for unknown reasons, hunted for their horn, are increasing by the day. Devils with bloody hands who have spread out widely in the steppe continue to chase the copper-colored wild goat, which moves freely in the steppe, until it is exhausted. Wherever they go they make blood flow in pools, break off the horn and press on in arrogance leaving nothing behind. When will the activities of these heartless ones be stopped? One thing is clear. The blood of innocent animals will not drive them away.

It is indeed a time of this: "When you go your cart breaks down, and when you go your ox dies." We live in a single country, in a single land, but sometimes express differing views about its fate. We have been predisposed to distort what we know, to deceive ourselves about what we have determined. I think that it is time to change. That is to say, from what and from whom are we still hiding today the fact that the fisherman's village named Awan in the Aral region was wiped from the face of the earth in 1949. If there are people from that village still alive, why are they silent. It is said that "they died of an illness kept secret." It would seem as if the time has come to tell the whole truth of what happened, if we have not killed one another quietly since then.

Some publications have easily taken advantage our weaknesses of this sort, for example, the paper EKE CURYER (30 April, 1992). The paper presented its conclusions, after the visit by a republic Cabinet of Ministers' special commission to Vozrozhdeniye Island, and said the testing area had no harmful impact upon the external environment.

The following lines from the materials of the commission clearly would not be missed by anyone.

"The establishment of the Steppe Scientific-Research Laboratory on Vozrozhdeniye Island was decided upon in terms of the following circumstances:

—Its distance from inhabited areas.

—The suitability of natural geographical conditions (good exposure to sunlight, dryness etc.)."

Let us look at these lines. The agreement to turn this small island into a testing area was signed in 1952. Work began in 1954. As part of this, work was done to build a kindergarten, a school, a store, a club, a stadium, etc. for the families of the soldiers. Local people also became involved in supplementary work via vouchers. We will draw our own conclusions from that.

The primary reason for turning Vozrozhdeniye into a testing area was that it was far from inhabited areas. How could the island itself be teeming with life? What was the "fault" of the island to be regarded as so secret. In fact, since then questions have followed questions. "When was it that the bellowing camel was looking for its colt, when was it that the thirsty Aral was not coveting its fish?" This question has a beginning and origin, but no end. The answer is also confused. For example, S.A. Medvedev, leader of the commission mentioned above, concluded regarding the 1974-75 destruction of fish in the Aral sea that "...it would seem that it occurred due to the excessive mineralization of sea waters and likewise occurred due to the mixture of waters with pesticides and with other poisonous chemicals." (EKSPRESS K, 28 April, 1992). However, during the spring of 1990, tests were carried out by the Zoological Institute on 15 camels that had dropped dead at the "Qulandy" Horse Factory. Consequently, thinking "that it was possible," they put the blame on the mineral composition of Aral waters. The answer given to the question of S.A. Medvedev was interesting. He had said in advance that chemical elements had played no role in changes taking place in the entire Aral region and in the destructions of livestock and fish, and he did everything possible to convince people of this. However, he had no choice but to accept the fact that chemical substances had had an influence upon the destruction of saiga (434,000) in the western portion of Torgay Oblast in May of 1988. (Note that in fact all of this is taken from the conclusions of the

committee which operated at that time.) The commission chairman, totally amazed, said, seriously: "but this was very far from the Aral, in fact in the Torgay Steppe," again dividing the two. Time will show whether or not the destruction in the water of the secret island and the destruction in the salt were one and the same or not. However, it is unclear exactly whom this commission was protecting.

This is how they glossed over things frightening everyone.

When we look at facts in hand, we observe that we are encountering very powerful diseases where animal skins wither and wool of coats falls out. We have concluded that such things are due to the influence of nuclear testing. The commission, instead of uncovering the causes of such poisoning, said that "we have perhaps begun to achieve recovery through better treatment of such sheep, and through feeding them with nutritious food." What does this mean? Have we decided to continue testing or not? Or have we, on the other hand, managed to overcome the entire Aral illness? Since our economies were in an imperial linkage, we have had to give up such frightening ideas within a Kazakh nation that has until recent years totally forgotten its ecology.

A recent issue of KOMSOMOLSKAYA PRAVDA (30 April, 1992) began an article with the theme that "the Soviet microbes have started to talk after 20 years of silence."

The article, to the joy of local environmentalists, made an effort to expose certain things. In addition, we call upon publications mentioned above to get up off their chairs and start working.

Editors: The Aral has withdrawn far from its shores. As we find out more and more about this and have more and more to say, we note that what we are doing is not all of the same sort. Mukhtar Shakhnuly, republic people's deputy and president of the international "Aral-Azia-Qazaqstan" Public Committee, who has made the great sea's disaster known to the world, who has sought the cure which can heal the wound of our souls, and who has wandered the world and taken counsel with enlightened citizens, has made the decision that an independent commission should be established on the Aral, which has such great social significance, and to look into the circumstances on its secret island. It should be made up of famous chemists, biologists, and specialists in particular disciplines. The commission should begin its work quickly.

It is difficult to be unconcerned about the facts in the table below, facts given by A. Iliysova, chief physician of the Aral City Children's Hospital. See clearly the secret acts of antagonism from the listing of heart-breaking figures. Look at the future of Aral city with both hope and uncertainty.

Table 1: Secret Information

| Year | 1981 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 |
|--|------|------|------|------|------|------|------|
| Total Births | 1172 | 1932 | 1862 | 1987 | 1891 | 1882 | 1951 |
| Still Births | 10 | 11 | 13 | 17 | 12 | 17 | 13 |
| Babies Dying Within 7 Days | 8 | 10 | 8 | 9 | 10 | 9 | 14 |
| Involuntary Abortions | 141 | 222 | 186 | 194 | 168 | 197 | 216 |
| Anemia of Pregnant Women (in percent) | 19.2 | 29.1 | 22.7 | 30.7 | 26.3 | 45.4 | 56.1 |
| Premature Births | 27 | 128 | 76 | 49 | 67 | 42 | 55 |

Uses of Trained Dolphins Described

927C0416A Moscow IZVESTIYA in Russian
19 Apr 92 p 8

[Article by A. Chepakin and D. Khrupov, first IZVESTIYA photojournalists to visit the CIS naval installation, which until recently had been top secret. First paragraph is IZVESTIYA introduction in bold-face.]

[Text] They prefer not to talk about their work here in the closed zone of Sevastopol, even among their colleagues. Nevertheless, the management of the CIS Naval Oceanarium met us halfway, raising the curtain of secrecy from their installation.

Founded in 1966, the oceanarium assembled the best scientific forces in their branch. Bottle-nosed dolphins and white whales, as well as Stellar's sea lions, were captured and delivered to the oceanarium. There are approximately two dozen of them on the base.

We were not pioneers in the training of marine animals for military purposes. During the Vietnam War the United States used dolphins for defending the naval base at Kamran. More than 50 diversion divers were killed during those years in attempts to penetrate the base aquarium. Dolphins also played a significant role during recent events in the Persian Gulf, where they were used for mine clearing work.

Our military specialists claim that experiments on the possibility of using dolphins to protect the water region and for search work are being conducted in Sevastopol. During the past year animals have found torpedoes spent during training practice and also ancient Greek amphoras. These can be seen at Sevastopol and center museums. They have also found other items worth

several thousand rubles. Unfortunately, the oceanarium itself does not get any kind of profit from this.

The oceanarium has not been able to avoid the economic difficulties of the country. Unique programs are being scrapped. There are no funds. A dolphin needs 12 kg of fish per day. It costs approximately 15 rubles per kilogram. Where can they get this kind of money? But the people at the dolphinarium are still hoping for the best.

An international program for finding and removing ammunition with poisonous substances from the bottom of the Baltic has been outlined within the framework of the Ecological Protection of Russian Water Basins Program (EKOBAROS). Marine animals are irreplaceable here. Everything now depends on deciding who will manage these operations.

Sailors and civilian specialists employed at the oceanarium told us that they are not training marine animals to blow up ships and other seagoing vessels, nor are they training them for any other acts of sabotage. The dolphins are not subjected to any experiments that would harm them, either. Moreover, they claimed that special methods have been developed for holding them in captivity. They have also developed methods for preventing, diagnosing, and treating their diseases, and they have developed methods of reproduction in the dolphinarium. Two dolphins have already been born at the Sevastopol Oceanarium.

It is true that they already have four generations of such animals in oceanariums in the United States. Our scientists are also hoping for similar success.

But for now the unique collective, which is capable of supporting not only itself, but also of being profitable to the country, is using its last efforts to solve a single problem, that of survival.

Ukrainian Commission Contemplates Sorbents Program

927C0417 Kiev *RABOCHAYA GAZETA*
in Russian 8 Apr 92 p 3

[Article based on commentary by Mikhail Petrovich Zakharash, chief of the medical directorate of the National Security Service, and Anatoliy Nikolayevich Morozov, Ukrainian deputy health minister and head of the state commission on sorbents, interviewed by V. Gryaznov, under the rubric "Going Back to What Was Printed": "Where Are the Patents for the Sorbents?"; first three paragraphs are source introduction]

[Text] Sorbents are substances that draw toxic elements out of the body, isolating them in an unchanged form. That distinguishes them favorably from other preparations, which, when interacting with various biological media, sometimes have side effects. The synthesis, as a rule, of plum and apricot pits and certain synthetic resins serves as the basis of the manufacture of the sorbents. Sorbents differ according to their form of use. Entersorbents are used internally, hemosorbents are used as filters through which blood passes, and application sorbents are applied to wound surfaces to accelerate the healing time by two- to threefold.

However, over the years, a unique method of using sorbents to cleanse the body of radionuclides and other types of environmental contamination—developed by the medical directorate of the former KGB of Ukraine—has not been able to find its way to those who need it.

We asked the chief of what is now the medical directorate of the National Security Service, Mikhail Petrovich Zakharash, to tell us about that.

[Zakharash] We had been using sorbents successfully in our hospital for various surgery-related and therapy-related diseases.

But on 26 April 1986, even though our staff was already at the Chernobyl plant at six in the morning, we, and all the other medical organizations, were unprepared for a disaster of that scale. Nevertheless, the people and the cleanup crews had to be saved somehow from the radiation contamination. That's when we got the idea of using the sorbents. Especially since, back in the 1960's, the Kiev scientists V. G. Nikolayeva and L. B. Pinchuk had proven their effectiveness in the treatment of acute radiation sickness, albeit only in experiment.

Because of the gravity of the moment, it was decided to use the sorbents at Chernobyl. The initial results were reassuring. Blood, bile, mother's milk, placenta, and umbilical cord levels of radionuclides were lowered by the sorbents six-, eight-, and ten-fold.

We began to develop special techniques. At that time, Academician L. A. Ilin, the director of the biophysics institute, spoke out against our work when he learned of it, calling our results false. That made it very difficult to get help to people. Still, we managed to treat more than

3,000 people from the accident cleanup area, and none of them came down with acute radiation sickness or even developed a single complication.

For severely irradiated individuals, we used hemosorption in techniques we had modified, and that amplified the effect eight- to tenfold. In all, we have received seven inventor's rights certificates for what we have developed, and there are still as many in the certifying committee.

In addition to all that, we continued our studies of the nuclide levels in biological media and reached the conclusion that, besides I-131, a total of 12 other isotopes were absorbed by the human body. Naturally, nothing was written anywhere about that. Had it been, the doses established for the cleanup crews would have had to be increased at least twofold.

It took four years for the official agencies to admit that our cleansing technique was the only one that was effective in the struggle against radioactive contamination and other types of environmental contamination.

In 1987, we prepared a report about what we had done. It was looked over by a whole group of academicians in Moscow that was headed by Academician D. M. Lupukhin, and the group gave it positive marks. But that same Academician L. A. Ilin rejected our technique at a meeting of the USSR Academy of Sciences presidium, thereby "burying" the possibility of its widespread use for an additional three years.

At present, we treat not only individuals of our department, but also the civilian population from various oblasts of Ukraine, because nobody else in Ukraine or in the former Soviet Union as a whole has the kind of clinical experience we have in treating with sorbents. We hope that by the end of the year, the republic's needs for the sorbent will be met. If, of course, we get some help.

We approached the Ukrainian health ministry with a proposal that a treatment-diagnosis center be set up, as well as a center in which our specialists could train physicians how to use our techniques, and the training would be free of charge. But we need a location, and money would help, too, because we haven't gotten a copeck for our work over the past five years. But because of the nature of our department, we can't do a commercial business. For that reason, if we find business intermediaries, we will not refuse to cooperate.

The Americans and Japanese are already displaying an enviable promptness in the manner. We, of course, wouldn't want to give away our techniques, because they are patentable and could bring our country the dollars it's so short of. But we don't have the money to pay for the patent expenses.

The only people supporting us are those in the leadership of the National Security Service, who are making it possible for us to treat not only our staff members, but also anyone who needs this kind of help—again, free of charge.

For an explanation of the position held by the Ukrainian Ministry of Health on the matter, we went to Anatoliy Nikolayevich Morozov, deputy health minister and head of the state commission on sorbents.

[Morozov] The position of the health ministry is clear: The technique is one that should be widely used, but only as a medication, and not as a preventive measure, and only under the supervision of a doctor.

And there are, of course, problems here. There are very few sorbents. All the capacities of the republic, according to plans for the entire year, were to produce 40 tons of enterosorbents and hemosorbents. But experts have concluded that Ukraine needs 3,000 tons a year.

In addition, disputes are still going on among scientists as to the expediency of the use of sorbents in general. There are some scientists who feel that the use of sorbents can effect a worsening of immune protection. As much as 30 percent of the immunocompetent cells are in the walls of the intestine, and when a sorbent moves into the intestine, it pulls to itself not only harmful substances, but also beneficial substances. There are three basic problems with sorbents. The first is a question of science—its development. The second involves production, and the third, introduction.

That is why a republic problem commission on sorbents was created a year ago at the initiative of the ministry. Essentially, it has an interdepartmental status. It combines scientists and specialists not only from the Ministry of Health, but also from the Academy of Sciences, industry, etc.

At one stage of our commission's work, we reached the conclusion that we need to change over to a single state program. After the announcement of a competition, more than 40 drafts were submitted.

We went with our national program to the Ukrainian Cabinet of Ministers and to the Ministry on Chernobyl, and they understood the urgency of the problem there and are examining our proposals carefully. And money will apparently be released.

From the editor: It won't be long before the spring of 1992 is here. For six years now, a fairly large dose of all kinds of elements given to us by "advanced" science has settled in our bodies. We wish that advanced science no less would finally get at least the opportunity to somehow soften its position. Experience around the world indicates that 10 years after long-term low-level irradiation, changes begin to appear not on the level of the immune system, but on the genetic level, that is, in newborns.

Assistance Needed for Manufacture of Artificial Lens

927C0406B Kiev *RABOCHAYA GAZETA*
in Russian 5 May 92 p 2

[Article by unattributed author; under the title "The Lens Is Small, But Dear..."]

[Text] The Center for the Microsurgery of the Eye was opened in Kiev in 1988. More than 65 thousand operations have been carried out here since then. The removal of the clouded lens and replacement by an artificial lens (in the case of cataract), operations for the treatment of glaucoma, as well as operations aimed at arresting progressive near-sightedness, at restoration of vision impaired as a result of near-sightedness, and at the correction of strabismus, as well as cosmetic and other operations are carried out year-round. Moreover, these are provided free of charge, and money is taken only from foreigners.

Professor Nikolay Markovich Sergienko, Corresponding Member of the Academy of Sciences of Ukraine, the Scientific Director of the center, believes that, with respect to new ideas, Ukrainian ophthalmological scientists are in the vanguard of world science in their scientific work.

And now that the center's clinical hospital has been provided with the most up-to-date equipment and instruments, Kiev doctors are capable of undertaking any tasks. This doesn't mean, of course, that the center does not need state financial assistance. And this is needed especially in the development of new promising trends. N. M. Sergienko has created an artificial lens with variable optical power, but the work was not appreciated according to its true worth; this is a lens which thousands of people who have lost their sight have already been waiting for for many years, a lens which was developed in semi-primitive conditions. And during this time two American companies have been persistently testing the water, so that it cannot be ruled out that the industrial production of the unique lens which was developed in Kiev will more likely begin abroad than here, in the motherland. And yet certain Ukrainian defence establishments which have high-precision equipment that is not being used under the conditions of conversion might solve this problem. Perhaps someone will respond?

An operating room. Leaning over the microscopes, Drs. Z. F. Veselovskaya and Yu. N. Kondratenko are at work. Every movement of the instrument in their hands is reproduced on the screen of a color television, behind which dozens of pairs of eyes of the students, young doctors who have been trained to become first-class ophthalmologists, follow.

Hungarian, Russian Pharmaceutical Firms Seek New Forms of Cooperation

927C0414 Moscow *KOMSOMOLSKAYA PRAVDA*
in Russian 13 May 92 p 3

[Article by A. Kaverznev: "Nospani Hydrochloridum Will Be Made in Russia"]

[Text] A great many of the medicines that have disappeared from our pharmacies are Hungarian. The reason for that is one that is commonplace—not enough convertible currency. Last year, some \$407 million of contracts were concluded. In fact, the Hungarians have delivered some \$70 million worth of medicines to us, and \$48 million of that is still not paid for. As a result, there's a severe shortage. Pharmacies and hospitals don't have antispasmodics, such as the well-known nospani hydrochloridum. There aren't enough cardiovascular analgesics or cancer drugs.

We have people who can't get the treatment they need, while in Hungary, pharmaceutical enterprises that have been forced to cut back production are suffering. The Hungarians are continuing to burst onto our market. Yesterday, an exhibit of Hungarian drugs opened in Moscow. Specialists are being invited to come, have a look, buy.

It's remarkable that market mechanisms are affecting the commerce in drugs more and more strongly. As it turns out, it would be more beneficial for Russia to buy certain Hungarian preparations in India or even in France—where suppliers offer better perquisites. But the Hungarians have their own trump cards: Over the last 40-odd years, our physicians have become accustomed to their preparations.

But what can we expect, in any case? Judging from the information that came out of a press conference at the Hungarian trade delegation, the forecast is moderately optimistic. First, centralized purchases of drugs—albeit in smaller amounts than in previous times—will continue. Second, drugs can now also be imported with monies from enterprises, regions, etc. Third, our firms and the Hungarian firms are searching for new forms of cooperation. That means nospani hydrochloridum could be manufactured in Russia from Hungarian components as early as this year.

Anti-Plague Service Created in Kazakhstan

927C0415.A Moscow *NEZAVISIMAYA GAZETA*
in Russian 9 Apr 92 p 6

[Article by KazTag-TASS: "Anti-Plague Service Created in Kazakhstan"]

[Text] A research and production association of anti-plague institutions has begun work in the capital of Kazakhstan. It was formed on the basis of the Central Asian Anti-Plague Scientific Research Institute, which is the regional and methodological center for the fight

against dangerous diseases in Central Asia and Kazakhstan. The association includes a network of anti-plague stations, laboratories that make vaccines, sera, and diagnostic preparations, and a facility for special training of physicians, biologists, and laboratory assistants.

Foreign Cooperation Sought for Hospital Construction

927C0415.D Alma-Ata KARAVAN in Russian
27 Mar 92 p 18

[Article: "The Hospital Will Not Likely Come Soon"]

[Text] At a recent session of the Cabinet of Ministers it was suggested that foreign companies be invited to participate in construction of the republic's hospital for invalids and war veterans.

We remind our readers that the opening of this hospital was called for in the president's decree "On Additional Privileges for Invalids, Veterans of World War II, Internationalist War Heroes and Families of Dead Soldiers." However, the decision as to when and where the hospital should be built was delayed without any justification. As a result, old people in need of health care have been forced to roam from one health center to another.

Yet, it appears that comprehensive and quality health care in "their own" hospitals will come too late for many: The construction is not planned to start before 1993.

New Immunology Institute in Uzbekistan

927C0415.E Tashkent PRAVDA VOSTOKA in Russian
11 Apr 92 p 1

[Article: "Immunology Against Disease"]

[Text] The Ministry of Health of the Republic of Uzbekistan has founded an immunology institute.

"Our center been set up on the basis of a branch of the Immunology Institute of the USSR Ministry of Health," said R.M. Ruzybakiev, head of the Immunodiagnostic Laboratory and doctor of medical science. "Some 80 immunologists work in five laboratories and three clinical wards. A chief objective of the institute is to make an appraisal of the immune status of Uzbekistan's population and determine the effects of ecologically noxious chemicals and physical/biological factors on human health."

The staff of the institute studies the prevalence and spread of diseases of the immune system in adults and children and develops new methods for treatment.

First Bone Marrow Transplant in Minsk Hospital

927C0415.G Kiev VECHERNIY KIYEV in Russian
5 May 92 p 1

[Article: "First Bone Marrow Transplant in Minsk Hospital"]

[Text] The first bone marrow transplant at the Minsk Oblast Clinical Hospital was performed by local doctors. The patient was treated by Vladimir Savostyanov, head of the hematology department, and Vladimir Bolshov, assistant professor of surgery at Minsk Medical Institute. The patient was a 20-year-old nurse who suffered from aplastic anemia. She received a transplant of her sister's bone marrow.

Chinese-Kazakh Cooperation Planned

927C0415.H Alma-Ata KARAVAN in Russian
3 Apr 92 p 4

[Article by V. Avaliani: "Along the Silk Trade Route: To Get ... a Hospital"]

[Text] So many things used to be brought here from China along the silk trade route. And in fact, all the goods carried by caravans in ancient times are still sent along this path today. However, this must be the first time that the imported item is ... a hospital.

The head of the city health service recently signed with China a protocol of intention to open at one of Alma-Ata's clinics (it has yet to be determined which one) a Chinese folk medicine department and an outpatient center, to be manned by Chinese specialists who have mastered the prescriptions and techniques of the most ancient medicine. This will certainly include the opening of a new drug store, which will sell medicinal plants, distillations, and concoctions from China—in a word, preparations that are, to coin a phrase, "chemistry-free."

An agreement is to be signed in May. In the meantime, negotiations are continuing for our Chinese friends to also open a children's nutrition store: This is an urgent problem for us, as is anything that concerns health.

In China, Urmurzina was struck by the fact that most enterprises, whatever their profiles, have something to do with health care. For example, the radio factory in Chencho manufactures unique medical technology, which we can only dream of. Patients paralyzed by stroke have electrodes attached to special points in the body, and music is transmitted through the electrodes. After a period of time, some muscular activity is restored. So far, all that has been achieved is that a

patient's hand begins to tremble, but for such patients even that is miracle. In addition, there is hope that after prolonged treatment greater effects can be achieved.

We should also note that the workers at the factory receive treatment directly in their housing project and in an outpatient clinic set up by the enterprise. When a worker has to go to a city hospital, the factory pays for his care.

Will the patients have to pay for services in the health centers to be opened by the Chinese here? Certainly, but rubles will be accepted. Hard currency comforts are still beyond the reach of our health service.

Health Minister Views Reduction in Medical Imports

*LD1106105292 Moscow Mayak Radio Network
in Russian 1700 GMT 9 Jun 92*

[Text] In the first half of this year Russia spent only 12 million rubles in foreign currency on buying medicine instead of the planned 650 million. This was stated today at a parliamentary hearing by Russian Federation Health Minister Andrey Vorobyev. He said that the reason for this was that virtually all the available foreign currency had gone to pay off the old debts of the medical and pharmaceutical industry. The total sum of debts today amounts to 700 million foreign currency rubles. Vorobyev said that the contracts with Philips and General Electric were beyond the means of the state budget and the Health Ministry.

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